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| 09/393,126      | 09/10/1999  | ROBERTO AIELLO       | FANT-99-002         | 2279             |

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EXAMINER

TRAN, MAIKHANH

ART UNIT

PAPER NUMBER

2666

DATE MAILED: 11/06/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/393,126

Applicant(s)

AIELLO ET AL.

Examiner

MAIKHANH T. TRAN

Art Unit

2666

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 03 September 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 51-75, 88, 89 and 93-143 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 51-75, 88, 89 and 93-143 is/are rejected.
- 7) ☐ Claim(s) 135 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### *Response to Amendment*

1. Applicants' Amendment filed on 9/03/02 has been fully considered and made of record. Based on this Amendment, claims 104, 106, 113, 135, 141 and 143 have been amended. Claims 51-75, 88-89 and 93-143 are now pending. In view of the following new ground of rejection, this office action is NOT made final.

### ***Claim Objections***

2. Claim 135 is objected to because of the following informalities: In line 17, "tot" should be changed to --to--. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application being examined was not (1) filed on or after November 29,

Art Unit: 2666

2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

4. Claims 105, 113, 133-134 and 143 are rejected under 35 U.S.C. 102(e) as being anticipated by Paneth et al (U.S. 6,014,374).

- Paneth et al., in figs. 1, 4 and the description associated with the figures disclose a wireless communication network system comprising at least three transceivers, each transceiver having a transmitter and a receiver, one of said transceivers (inside 11) being structured and configured as a master device, said master device structured and configured to manage data transmission between said master device and said at least two other transceivers (10) and direct data transmission between said at least two other transceivers or between said at least three transceivers (see col. 6, lines 3-9, fig. 4 and the description associated with the figure).

Moreover, each of said transceivers further comprises a framing controller having means for generating and maintaining time frame information for said network system, wherein said transceivers operate according to a MAC protocol having a TDMA frame definition with a master slot, a command slot and a plurality of data slots (see col. 13, line 7 - col. 16, line 25), said protocol structured and configured to operate in ALOHA mode and TDMA mode (see col. 3, lines 15-18 and col. 21, lines 31-42), said master device managing said protocol and said data slots in said protocol (see col. 7, lines 5-7 and col. 24, lines 45-54). Each slave transceiver (10) comprises a local clock, said master

Art Unit: 2666

transceiver comprises a master clock therein each said local clock synchronized with said master clock (see col. 10, lines 1-6).

The network system in Paneth et al. serves voice communications, and it is well known in the art that voice conversations require isochronous transmission (i.e. without delay). Therefore it is inherent that in Paneth et al., said transceivers are structured and configured to transfer data to other transceivers isochronously.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 104, 110-112, 118-120, 128-129, 130-132, 135, 136-137, 138, 139-140 and 141-142 are rejected under 35 U.S.C. 103(a) as being unpatentable over Paneth et al (U.S. 6,014,374) in view of Fullerton et al. (U.S. 6,031,862).

- Paneth et al. disclose a wireless communication network system as discussed in claims 105, 113, 133-134 and 143 above. Besides, the transmitters in Paneth et al. are structured and configured to operate with baseband wireless technology (see abstract and col. 12, lines 6-11).

Paneth et al., however, fail to fairly suggest that said transmitters are structured and configured to emit RF pulses operating with UWB wireless

technology and said receivers are structures and configured to receive RF pulses.

Fullerton et al., in abstract, introduce an impulse radio technology/UWB time domain used in wireless communications system wherein an impulse radio link can communicate many independent channels simultaneously by employing different subcarriers for each channel. Therefore it would have been obvious to ones skilled in the art at the time the invention was made to apply Fullerton et al's teaching in Paneth et al' by using UWB time domain and subcarriers in Paneth et al. to enable transceivers to transfer data to other said transceivers simultaneously to increase the transmission in Paneth et al ' system.

7. Claims 51-53, 60, 73-75, 93-103, 106, 114 and 121 are rejected under 35 U.S.C. 103(a) as being unpatentable over Paneth et al (U.S. 6,014,374) in view of Prieto, Jr. (U.S. 6,449,265 B1).

- Paneth et al. disclose a wireless communication network system as discussed in claims 105, 113, 133-134 and 143 above. Besides, in Paneth et al., each of said transceivers further comprises a data modulator and a data demodulator {as recited in claims 96, 99 and 101} (see fig. 25 and col. 4, lines 55-57).

Paneth et al., however, fail to teach that the wireless communication network system further comprising a MAC unit/MAC hardware interface comprising a Physical layer interface, a MUX/DEMUX unit operatively coupled to said Physical layer interface, a plurality of slot allocation units operatively coupled

Art Unit: 2666

to said MUX/DEMUX unit, an interface to higher level protocols operatively coupled to said plurality of slot allocation units.

Prieto, Jr., in abstract, summary, figs. 1, 4 and the description associated with the figures, discloses a MAC unit/MAC hardware interface (20) that allows ATM protocol in wired communications network to be transmitted efficiently over a wireless communication network operating in slotted ALOHA and TDMA mode, the MAC unit/MAC hardware interface comprising a Physical layer interface (connected to PHY layer 26), a MUX/DEMUX unit (32) operatively coupled to said Physical layer interface, a plurality of slot allocation units (30) operatively coupled to said MUX/DEMUX unit, an interface to higher level protocols (ATM layer 22) operatively coupled to said plurality of slot allocation units.

In order to extend the communications system in Paneth et al with multi-protocol/multi-media service, it would have been obvious to ones skilled in the art at the time the invention was made to apply Prieto, Jr.' teaching in Paneth et al.' by using the MAC hardware interface disclosed by Prieto, Jr. in Paneth et al' communications system to allow a wired communications network to be transmitted efficiently over a wireless communication network.

8. Claims 54-56, 57-59, 61-63, 64-66, 67-69, 70-72, 88-89, 107-109, 115-117, 122-124 and 125-127 are rejected under 35 U.S.C. 103(a) as being unpatentable over Paneth et al (U.S. 6,014,374) and Prieto, Jr. (U.S. 6,449,265 B1) as applied to claims 51-53, 60, 73-75, 93-103, 106, 114 and 121 above, and further in view of Fullerton et al. (U.S. 6,031,862).

- Prieto, Jr. discloses a MAC unit/MAC hardware interface that allows ATM protocol in wired communications network to be transmitted efficiently over a wireless communication network operating in slotted ALOHA and TDMA mode; and Paneth et al. disclose a wireless communication network system as discussed in claims 51-53, 60, 73-75, 93-103, 106, 114 and 121 above. Besides, the transmitters in Paneth et al. are structured and configured to operate with baseband wireless technology (see abstract and col. 12, lines 6-11).

Prieto, Jr. and Paneth et al., however, fail to fairly suggest that said transmitters are structured and configured to emit RF pulses operating with UWB wireless technology and said receivers are structures and configured to receive RF pulses.

Fullerton et al., in abstract, introduce an impulse radio technology/UWB time domain used in wireless communications system wherein an impulse radio link can communicate many independent channels simultaneously by employing different subcarriers for each channel. Therefore it would have been obvious to ones skilled in the art at the time the invention was made to apply Fullerton et al.'s teaching in Paneth et al' by using UWB time domain and subcarriers in Paneth et al. to enable transceivers to transfer data to other said transceivers simultaneously to increase the transmission in Paneth et al ' system.

### ***Conclusion***

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.



Art Unit: 2666

Raith (U.S. 6,385,461 B1), in figs. 1-2 and the description associated with the figures disclose a wireless communication network system comprising at least three transceivers, each transceiver having a transmitter and a receiver, one of said transceivers (the base station 30) being structured and configured as a master device, said master device structured and configured to manage data transmission between said master device and said at least two other transceivers (10) and direct data transmission between said at least two other transceivers.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MAIKHANH T. TRAN whose telephone number is 703-308-7911. The examiner can normally be reached on MON-FRI 8:30AM - 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, SEEMA RAO can be reached on 703-308-5463. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4700.

Application/Control Number: 09/393,126

Page 9

Art Unit: 2666

Maikhanh Tran

November 2, 2002

Sema S. Rao

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